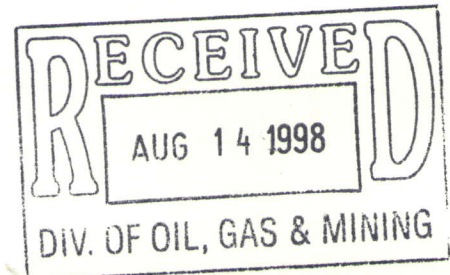


m/049/031

# Western Aggregates Holding Corp.

August 14, 1998



Mr. D. Wayne Hedberg  
Permit Supervisor  
Minerals Regulatory Program  
Department of Natural Resources  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

Subject:        Response to Comments – Valley Asphalt Inc's Lehi Quarry (M/049/031),  
                     Utah County

Dear Mr. Hedberg:

The following is a response to DOGM's comments on Valley Asphalt's Notice of Intent to commence large mining operations in Lehi Quarry, Utah County. Where there is a contradiction, the following information supercedes the information provided in the previous NOI for the proposed mining operation. The three phases shown in the earlier submittal has been replaced by a single phase. Please contact me at 485-2270 if you have further questions. Thank you for your assistance.

Sincerely,

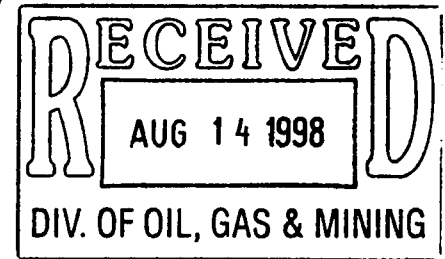
Western Aggregates Holding Corporation

A handwritten signature in cursive script, appearing to read "Arjun Ram".

Arjun Ram, P.E.  
Civil/Environmental Engineer

## **RESPONSE TO DOGM'S COMMENTS**

### **R647-4-104 - Operator's Surface and Mineral Ownership**



The name and the address of the surface owner in the project area is provided below:

Leased by Peck Rock Products from  
State of Utah, Division of Natural Resources  
Allred's Project - Lehi Quarry (M049031)

### **R647-4-105 - Maps, Drawings & Photographs**

105.1 Topographic Base Map: A topographic base map showing the project area is attached. The map is a USGS 7.5 minute (1:24000 scale) map of the Jordan Narrows quadrangle, Utah. The pit is located North of Highway 73, approximately 6 miles west of I-15 past the city of Lehi. The map shows some existing unimproved roads (trails). No streams, springs, or other bodies of water are present inside or within 500 feet of the property. There are no buildings, landing strips, or oil and gas pipelines inside or within 500 feet of the property.

105.2 Surface Facilities Map: All areas that could potentially be disturbed during the entire period of operation (up to 50 years) have been included in the map. The area labeled as "Construction Fill Borrow Site" has been included in the acreage for disturbed areas. The proposed surety estimate will be for the entire area to be excavated.

105.3 Drawings or Cross Sections: Typical cross sections for the phase 1 mine area have been included in the map.

Reclamation Treatments Map: All potential disturbances have been included in the attached map. The potential area to be disturbed as a result of the various activities to be performed are listed below:

Berm Area: 9.7 acres – Includes the actual areas of the berm, growth media stockpile, and related activities. Any excess soil on the berm will be leveled, a minimum of 6" of top soil will be placed in areas where top soil has been stripped and the area will be seeded in accordance with the vegetation plan.

Asphalt and Crushing Plants Yard Area: 16.0 acres – Includes the area where the crushing spread and the asphalt plant are set-up. A minimum of 6" of top soil will be placed in areas where top soil has been stripped and the area will be seeded in accordance with the vegetation plan. The sediment pond area will be leveled to prevent water stagnation before revegetation efforts are undertaken.

Excavation Area: 95.3 acres – Includes the area that will be excavated. A minimum of 1-foot of top soil will be placed in the areas excavated and the area will be seeded in accordance with the vegetation plan.

Access Road Area: 0.57 acres – At the completion of the operations, the asphalt will be ripped up, a minimum of 6 inches of top soil will be placed and the area will be seeded in accordance with the revegetation plan.

High Wall/Bench Area: 24.0 acres – Includes the area that will be excavated near the east, west and north property boundaries. A variance is requested to exempt this area from revegetation because of the difficulty in the implementation of the various steps necessary for successful revegetation and subsequent care until a viable plant community is established.

105.3.15 Sediment Ponds - A drawing and location of the sediment pond has been provided in the attached Mine and Reclamation Map. The pond is located in an area that is naturally low. The mine will be graded to allow most of the run-off water to drain to the pond. The maximum 10-year 24-hour storm from 1988-1997 at Pleasant Grove (near Lehi) was 1.36" (September 7, 1991). The mine will be reclaimed simultaneously with the excavation. The approximate drainage area at any one time is estimated to be about 30 acres. Assuming that 50% (excluding infiltration, etc.) of all the water that falls in the drainage area makes it to the detention pond, a total capacity of approximately 1.7 acre-feet  $[1.36"/(12"/\text{feet}) \times 30 \text{ acres} \times 0.5]$  is required. A simple detention basin will be progressively constructed which can approximately hold up to 2-acre feet of water/sediment. If this storage capacity is found to be inadequate from experience, then the capacity will be increased adequately by increasing the size and/or depth of the pond. The detention pond will be lined with gravel to promote water drainage/infiltration. The water will be used or allowed to evaporate. The sediment will be skimmed from the bottom of the pond and used or disposed. There are no perennial streams that will be affected as a result of the excavation. The probability of water run-off from the excavation site resulting in any flooding of adjacent areas and causing damage is very low.

#### R364-4-106 – Operation Plan

106.2 Type of operations conducted, mining method, processing, etc. – Typical equipment to be operated at the site are as follows:

##### Material Processing Equipment

- Crushers
- Screens
- Conveyor belts and stackers
- Mobile equipment such as loaders, dozers, etc.
- Processed material stockpiles

##### Asphalt Plant Equipment

- Asphalt plant drum drier
- Storage bins
- Fuel storage tanks inside secondary containment
- Asphalt loadout silo

## Description of Processes

### Aggregate Production:

The material is drilled, blasted and transported to the processing plant where it is loaded into a feeder. The material is then crushed and screened into various products by a combination of crushers, screens and conveyor belts. The product is stored in stockpiles. The actual products produced will depend on the market demand. The material from the stockpiles is then loaded into trucks and hauled to project sites or loaded in the asphalt plant silos.

### Asphalt Production:

The aggregate material is loaded into the bins and fed into a drum drier to remove the moisture. Asphalt oil is then injected and mixed with aggregate to produce asphaltic concrete. The asphaltic concrete is loaded into a silo from where it is loaded into trucks and transported into job sites.

106.3 Estimated acreage disturbed and reclaimed – This item has been addressed under 105.3.

106.6 Plan for protecting and redepositing soils – The top soil will be stockpiled in the berm area along the south edge of the property as shown in the Mine and Reclamation Map. The top soil will be vegetated with the following vegetation mix:

Piute Orchard Grass @ 1lb/acre

Alfalfa @ 1.5 lb/acre

Small Burnett 2 @ 1b/acre

Thickspike Wheat @3 lb/acre

106.8 Depth to Groundwater – The original application stated that groundwater was found at 4520 feet. This is an error. The groundwater depth is 427.1 feet as shown in the attached well driller's report.

106.9 Proposed location and size of water treatment ponds – This information has been provided above in item 105.3.15.

## R647-4-107 – Operation Practices

107.1 Public Safety and Welfare – Minimal trash and debris will be generated from the operations. All trash and debris such as scrap metal, tires, etc. will be hauled out to a landfill periodically. There will be no permanent on-site trash disposal facility. Measures to prevent public access to the highwall areas during operations will include posting of bold hazard signs at an interval of 50 yards along the highwall and/or the erection of a fence in highly dangerous areas.

## R647-4-109 Impact Assessment

### 109.4 Slope stability, erosion control, air quality, safety

The grading plan has been modified to limit the overall slopes of the highwalls on the south, east and west facing slopes to a maximum of 45 degrees. Therefore, a variance is not sought for the slope of the highwall, but only for the revegetation of the highwall and bench areas.

## R647-4-110 – Reclamation Plan

110.1 Current and post-mining land use – It is recognized that the current land use also includes wildlife habitat.

### 110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

The areas to be reclaimed are as follows:

Berm Area: 9.7 acres – Includes the actual areas of the berm, growth media stockpile, and related activities. Any excess soil on the berm will be leveled, a minimum of 6" of top soil will be placed in areas where top soil has been stripped and the area will be seeded in accordance with the vegetation plan.

Asphalt and Crushing Plants Yard Area: 16.0 acres – Includes the area where the crushing spread and the asphalt plant are set-up. A minimum of 6" of top soil will be placed in areas where top soil has been stripped and the area will be seeded in accordance with the vegetation plan. The sediment pond area will be leveled to prevent water stagnation before revegetation efforts are undertaken.

Excavation Area: 95.3 acres – Includes the area that will be excavated. A minimum of 1-foot of top soil will be placed in the areas excavated and the area will be seeded in accordance with the vegetation plan.

Access Road Area: 0.57 acres – At the completion of the operations, the asphalt will be ripped up, a minimum of 6 inches of top soil will be placed and the area will be seeded in accordance with the revegetation plan.

High Wall/Bench Area: 24.0 acres – Includes the area that will be excavated near the east, west and north property boundaries. A variance is requested to exempt this area from revegetation because of the difficulty in the implementation of the various steps necessary for successful revegetation and subsequent care until a viable plant community is established.

The original NOI mentions using fertilizer or organic mulch amendments to enhance revegetation. Fertilizer will be used to enhance the success of revegetation at the rate of 100 lb/acre of diammonium phosphate. Also, other factors necessary to promote

revegetation success such as leaving areas in rough surface condition, site grading to promote water retention in areas that are being revegetated, etc. will be implemented.

110.5 Revegetation Plan - The seed mix proposed by the DOGM is acceptable.

#### R647-4-111 Reclamation Practices

##### 111.1 Public Safety and Welfare

111.1.12 Disposal of Trash and Debris – No on-site burial of construction debris is proposed for this operation

111.1.15 Constructing berms/fences above highwalls – Adequate warning signs will be posted at an interval of every 50 yards to deter access from above the highwalls. Fences will be constructed at critical locations above the highwalls as needed. The highwall is constructed with a series of 20 foot benches as shown in the cross section drawings in the Mine and Reclamation Map. This will minimize damage from potential rock falls.

111.7 Highwalls stabilized at 40 degrees or less – The grading plan has been modified to limit the overall slopes of the highwalls on the south, east and west facing slopes to a maximum of 45 degrees. Therefore, a variance is not sought for the slope of the highwall, but only for the revegetation of the highwall and bench areas.

111.12 Topsoil Redistribution – The topsoil will be spread to a thickness of 6 inches where the existing top soil has not been removed (i.e., in the equipment yard area and the berm area). The topsoil will be spread to a thickness of 12 inches in areas where the topsoil has been removed (i.e. the excavation area).

#### R647-4-112- Variance

The grading plan has been modified to limit the overall slopes of the highwalls on the south, east and west facing slopes to a maximum of 45 degrees. Therefore, a variance is not sought for the slope of the highwall, but only for the revegetation of the highwall and bench areas.

#### R647-4-113 – Surety

The revised calculations are attached.

W1.1

**WELL DRILLER'S REPORT****State of Utah  
Division of Water Rights**

For additional space, use "Additional Well Data Form" and attach

Well Identification **CHANGE APPLICATION: a21980(54-1008)**Owner *Note any changes*  
Valley Asphalt Inc  
P.O. Box 220  
Spanish Fork, UT 84664

Contact Person/Engineer:

Well Location *Note any changes*  
COUNTY: Utah  
NORTH 500 feet EAST 2400 feet from the W $\frac{1}{2}$  Corner of  
SECTION 16, TOWNSHIP 5S, RANGE 1W, SLB&M.Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)  
6 mi W of LehiDrillers Activity Start Date: 4-15-98 Completion Date: 4-30-98Check all that apply:  
☒ New ☐ Repair ☐ Deepen ☐ Abandon ☐ Replace ☐ Public Nature of Use:

| DEPTH (feet)<br>FROM | TO  | BOREHOLE<br>DIAMETER (in) | DRILLING METHOD     | DRILLING FLUID |
|----------------------|-----|---------------------------|---------------------|----------------|
| 0                    | 40  | 14"                       | Air Rotary          | foam           |
| 40                   | 469 | 10 $\frac{3}{4}$          | Air Rotary          | foam           |
| 469                  | 585 | 9 $\frac{1}{8}$           | TRI cone Air Rotary | foam           |

| DEPTH (feet)<br>FROM | TO  | W<br>A<br>T<br>E<br>R | P<br>E<br>R<br>M<br>E<br>A<br>B<br>I<br>L<br>I<br>T<br>Y | UNCONSOLIDATED   |                  |                  |                            |                                 | CONSOLIDATED                    |                       | ROCK TYPE | COLOR       | DESCRIPTIONS AND REMARKS<br>(include comments on water quality if known.) |
|----------------------|-----|-----------------------|----------------------------------------------------------|------------------|------------------|------------------|----------------------------|---------------------------------|---------------------------------|-----------------------|-----------|-------------|---------------------------------------------------------------------------|
|                      |     |                       |                                                          | C<br>L<br>A<br>Y | S<br>I<br>L<br>T | S<br>A<br>N<br>D | G<br>R<br>A<br>V<br>E<br>L | C<br>O<br>B<br>B<br>L<br>E<br>S | B<br>O<br>U<br>L<br>D<br>E<br>R | O<br>T<br>H<br>E<br>R |           |             |                                                                           |
| 0                    | 12  |                       | X                                                        | X                |                  |                  |                            | X                               |                                 |                       |           | Red         |                                                                           |
| 12                   | 23  |                       |                                                          |                  |                  |                  | X                          |                                 |                                 |                       |           | Tan         |                                                                           |
| 23                   | 27  |                       |                                                          |                  |                  | X                | X                          |                                 |                                 |                       |           | Gray        | Limestone Gravels                                                         |
| 27                   | 70  |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | Red/gray    | Weathered / Broken                                                        |
| 70                   | 88  |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | Tan/gray    | Some broken zones                                                         |
| 88                   | 104 |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | Tan         | Hard                                                                      |
| 104                  | 119 |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | Red         | Soft                                                                      |
| 119                  | 180 |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | tan         | fairly soft 1'/min drilling                                               |
| 180                  | 198 |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | Red         | Soft                                                                      |
| 198                  | 230 |                       |                                                          |                  |                  |                  |                            |                                 |                                 |                       | Limestone | Purple/gray | Hard                                                                      |

## Static Water Level

Date 5-20-98 Water Level 427.1 feet Flowing? ☐ Yes ☐ No  
Method of Water Level Measurement Solometer If Flowing, Capped Pressure \_\_\_\_\_ PSI  
Point to Which Water Level Measurement was Referenced GL  
Height of Water Level reference point above ground surface 0 feet Temperature \_\_\_\_\_ ☐ °C ☐ °F

Well Log





## Construction Information

| DEPTH (feet) |     | CASING                         |                 |                    | DEPTH (feet) |     | SCREEN <input type="checkbox"/> | PERFORATIONS <input type="checkbox"/> |                                                 |
|--------------|-----|--------------------------------|-----------------|--------------------|--------------|-----|---------------------------------|---------------------------------------|-------------------------------------------------|
| FROM         | TO  | CASING TYPE AND MATERIAL/GRADE | WALL THICK (in) | NOMINAL DIAM. (in) | FROM         | TO  | SLOT SIZE OR PERF SIZE (in)     | SCREEN DIAM. OR PERF LENGTH (in)      | SCREEN TYPE OR NUMBER PERF (per round/interval) |
| +2           | 451 | A53B Steel                     | .250            | 8 5/8              | 451          | 585 | 1 1/8                           | 8"                                    | B Rows                                          |
| 0            | 40  | 12" Steel                      | .250            | 12"                |              |     |                                 |                                       |                                                 |
|              |     |                                |                 |                    |              |     |                                 |                                       |                                                 |
|              |     |                                |                 |                    |              |     |                                 |                                       |                                                 |
|              |     |                                |                 |                    |              |     |                                 |                                       |                                                 |
|              |     |                                |                 |                    |              |     |                                 |                                       |                                                 |
|              |     |                                |                 |                    |              |     |                                 |                                       |                                                 |
|              |     |                                |                 |                    |              |     |                                 |                                       |                                                 |

Well Head Configuration: Well Seal Access Port Provided? ☒ Yes ☐ NoCasing Joint Type: Weld Perforator Used: Factory Perf.

| DEPTH (feet) |     | FILTER PACK / GROUT / PACKER / ABANDONMENT MATERIAL              |                                           |                                                      |
|--------------|-----|------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------|
| FROM         | TO  | ANNULAR MATERIAL, ABANDONMENT MATERIAL and/or PACKER DESCRIPTION | Quantity of Material Used (if applicable) | GROUT DENSITY (lbs./gal., # bag mix, gal./sack etc.) |
| 385          | 380 | 3/8 Gravel                                                       | 90 bags                                   | 50# Bags                                             |
| 380          | 20  | Washed Pea Gravel                                                |                                           |                                                      |
| 0            | 40  | Bentonite                                                        | 9 Bags                                    | 50# / 35 gal. H <sub>2</sub> O                       |
|              |     |                                                                  |                                           |                                                      |
|              |     |                                                                  |                                           |                                                      |
|              |     |                                                                  |                                           |                                                      |
|              |     |                                                                  |                                           |                                                      |

## Well Development / Pump or Bail Tests

| Date | Method   | Yield | Units Check One |     | DRAWDOWN (ft) | TIME PUMPED (hrs & min) |
|------|----------|-------|-----------------|-----|---------------|-------------------------|
|      |          |       | GPM             | CFS |               |                         |
| 4/29 | Air Lift | 60    | X               |     | 8             | 6 hrs                   |
|      |          |       |                 |     |               |                         |
|      |          |       |                 |     |               |                         |

## Pump (Permanent)

Pump Description: Sub Horsepower: 15 Pump Intake Depth: 547 feetApproximate maximum pumping rate: 600 Well disinfected upon completion? ☒ Yes ☐ No

Comments: Description of construction activity, additional materials used, problems encountered, extraordinary circumstances, abandonment / procedures. Use additional well data form for more space.

Drilled 8" under casing to 600

## Well Driller Statement

This well was drilled or abandoned under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief.

Name Zimmerman Well Service IncLicense No. 527

(Person, Firm, or Corporation - Print or Type)

Signature Mike Zimmerman

(Licensed Well Driller)

Date 5/20/98

## RECLAMATION SURETY ESTIMATE

(c:\data\bonding\mine-bnd-est.xls)

Company Name  
Valley Asphalt, Inc.

last revision

page "ESTIMATE"

Utah County

Prepared by Utah State Division of Oil, Gas &amp; Mining

-This estimate is based on the reclamation plan in the NOI dated \_\_\_\_\_, revised August 14, 1998  
 -All structures & facilities to be dismantled, demolished & removed from the site as salvage or debris  
 -All concrete foundations & pads are to be crushed & removed from the site as product or debris  
 -Top soil from Berm area will be spread and additional top soil will be trucked in as needed  
 -A minimum of 6" of top soil to be spread in the berm area and operations area and then seeded  
 -A minimum of 12" of top soil to be spread in the pit bottom area and then seeded  
 -Paved road entrance to be ripped and a minimum of 6" of top soil to be spread and then seeded

Note: actual unit costs may vary according to site conditions last unit cost update 08/18/97

Amount of disturbed area which will receive reclamation treatments = 121.6 acres

Estimated total disturbed area for this mine = 145.6 acres

| Activity                                                 | Quantity | Units                               | \$/unit | \$        |                |
|----------------------------------------------------------|----------|-------------------------------------|---------|-----------|----------------|
| Safety gates, signs, etc. (mtls & installation)          | 20       | sum                                 | 200     | 4,000     | (1) DOGM lu    |
| Demolition of buildings & facilities                     | 20,000   | CF                                  | 0.23    | 4,600     | (2) Means Ht   |
| Debris & equipment removal - trucking                    | 8        | trips                               | 48      | 384       | (3) Means 1E   |
| Debris & equipment removal - dump fees                   | 200      | CY                                  | 6       | 1,200     | (4) Means 1E   |
| Debris & equipment removal - loading trucks w/FE loader  | 15       | hours                               | 166     | 2,490     | (5) Rental R   |
| Demolition & debris removal - general labor              | 32       | hours                               | 15      | 480       | (6) DOGM as    |
| Regrading facilities areas (est 50% of facilities area)  | 8.0      | acre                                | 415     | 3,320     | (7) Means 1E   |
| Regrading waste dump slopes                              | 0        | CY                                  | 0.32    | 0         | (8) Means 1E   |
| Ripping waste dump tops                                  | 0.0      | acre                                | 363     | 0         | (9) Means 1E   |
| Ripping "facilities area"                                | 8.0      | acre                                | 570     | 4,560     | (9) Means 1E   |
| Ripping mine area                                        | 95.3     | acre                                | 570     | 54,321    | (9) Means 1E   |
| Ripping pit access roads                                 | 0.6      | acre                                | 570     | 325       | (9) Means 1E   |
| Creating safety berms or barriers around highwalls       | 11,700   | LF                                  | 0.1     | 1,170     | (10) Means 1E  |
| Ripping access roads - dozer                             | 0.6      | acre                                | 570     | 325       | (9) Means 1E   |
| Regrading access roads - dozer                           | 0.6      | acre                                | 415     | 237       | (7) Means 1E   |
| Sidecast mtl replacement on steep roads- trackhoe        | 2,340    | LF                                  | 0.85    | 1,989     | (11) Contracto |
| Surface drainage restoration or construction             | 1170     | LF                                  | 0.1     | 117       | (10) Means 1E  |
| replacing topsoil - dozer                                | 174,942  | CY                                  | 0.32    | 55,981    | (8) Means 1E   |
| replacing topsoil - scraper                              | 174,942  | CY                                  | 0.32    | 55,981    | ( ?            |
| replacing topsoil -truck, FE loader & dozer              | 174,942  | CY                                  | 0.32    | 55,981    | ( ?            |
| Mulching (2 ton/acre alfalfa)                            | 0.0      | acre                                | 160     | 0         | (12) GUESSTI   |
| Composted manure (10 ton/acre)                           | 0.0      | acre                                | 800     | 0         | ( ?            |
| Fertilizing ( 100 lb/acre diammonium phosphate)          | 121.6    | acre                                | 90      | 10,941    | (13) GUESSTI   |
| Broadcast seeding (~20 lb/acre)                          | 0.0      | acre                                | 170     | 0         | (14) GUESSTI   |
| Drill seeding (~13 lb/acre)                              | 121.6    | acre                                | 220     | 26,745    | (15) GUESSTI   |
| Hydroseeding                                             | 0.0      | acre                                | 800     | 0         | (16) GUESSTI   |
| General site cleanup & trash removal (50% of total area) | 8.0      | acre                                | 50      | 400       | (17) DOGM as   |
| Equipment mobilization                                   | 3        | equip                               | 1000    | 3,000     | (18) DOGM ge   |
| Reclamation Supervision                                  | 5        | days                                | 356     | 1,780     | (17) Means 1E  |
|                                                          |          | Subtotal                            |         | 290,328   |                |
| 10% Contingency                                          |          |                                     |         | 29,033    |                |
|                                                          |          | Subtotal                            |         | \$319,361 |                |
| Escalate for 5 years at 2.24% per yr                     |          |                                     |         | 37,407    |                |
|                                                          |          | Total                               |         | \$356,768 |                |
|                                                          |          | Rounded surety amount in yr 2002-\$ |         | \$356,800 |                |
| Average cost per disturbed acre =                        |          |                                     |         | \$2,451   |                |

## GENERIC RECLAMATION ESTIMATE

(c:\data\bonding\mine-bnd-est.xls)

insert mine company name here

last revision

04/18/97

insert mine name here

Itemname M000-000.WB2

page "ESTIMATE"

M/000/000

insert county name

Prepared by Utah State Division of Oil, Gas &amp; Mining

last unit cost update 04/18/97

|                                      |                                                                           |
|--------------------------------------|---------------------------------------------------------------------------|
| (1)                                  | DOGM lump sum assumed                                                     |
| (2)                                  | Means Heavy Construction Cost Data 1997, 020-604-0100, mixture of b/c     |
| (3)                                  | Means 1997, 020-620-5100, \$0.48/mile for >8CY truck; assumed 100 mil     |
| (4)                                  | Means 1997, 020-612-0320, avg, bldg construction mtls                     |
| (5)                                  | Rental Rate Blue Book 4/96, Cat 988B, 7CY, & Means 1997, Crew B-10U       |
| (6)                                  | DOGM assumed wage for unskilled general labor                             |
| (7)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, mtl 2550 lb/CY      |
| (8)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, mtl 2550 lb/CY      |
| (9)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, multi shank rip     |
| (9)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, multi shank rip     |
| (9)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, multi shank rip     |
| (10)                                 | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, mtl 2550 lb/CY      |
| (9)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, multi shank rip     |
| (7)                                  | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, mtl 2550 lb/CY      |
| (11)                                 | Contractor's actual costs, 1991 at E/053/012, Cat 225 Excavator, 20 ft wk |
| (10)                                 | Means 1997 & Rental Rate Blue Book 4/97: Cat D10N, U, mtl 2550 lb/CY      |
| (12)                                 | GUESSTIMATE                                                               |
| (13)                                 | GUESSTIMATE                                                               |
| (14)                                 | GUESSTIMATE                                                               |
| (15)                                 | GUESSTIMATE                                                               |
| (16)                                 | GUESSTIMATE                                                               |
| (17)                                 | DOGM assumed cost                                                         |
| (18)                                 | DOGM general estimate                                                     |
| (17)                                 | Means 1997, 010-036-0180, project manager, minimum \$1780/wk              |
| 10% Contingency                      |                                                                           |
|                                      | Subtotal                                                                  |
|                                      | \$0                                                                       |
| Escalate for 5 years at 2.24% per yr |                                                                           |
|                                      | 0                                                                         |
|                                      | Total                                                                     |
|                                      | \$0                                                                       |
|                                      | Rounded surety amount in yr 2002-\$                                       |
|                                      | \$0                                                                       |
| Average cost per disturbed acre =    |                                                                           |
| ERR                                  |                                                                           |

Facilities w/ grading

~~800~~ 0.

Ripping

~~16~~

16.0